

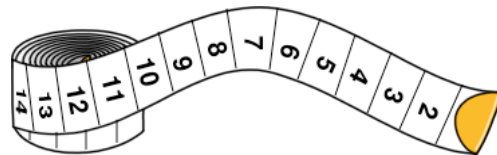
Solutions of Linear Equations (1.3b Lesson)

Unit Title: Getting into Shape

Unit Question: Do I Measure Up?

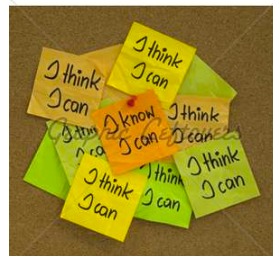
Learner Profile: Balanced

Area of Interaction: Human Ingenuity



I Can Statement:

I can solve solve linear equations with variables on both sides.



= remember

Words to Live By:

No Solution

Infinitely Many Solutions
All real numbers

When you have variables on each side of the equation:

1st: Use the Distributive Property (a few exceptions!)

2nd: Simplify the expressions on each side.

3rd: Use the Addition or Subtraction Property of Equality isolate the variable.

4th: Simplify the expressions on each side of the equation

5th: Use the Multiplication or Division Property of Equality to solve.

True or False

1. Every equation has a solution.
2. Every equation has just one solution.
3. Some equations have 2 solutions.

Do the following have 1 solution, no solution, 2 solutions, or infinitely many solutions?

Example 1: $x + 2 = 7$

Example 2: $x + 2 = x + 7$

Example 3: $x^2 = 4$

Example 4: $x + 2 = x + 2$

Examples:

$$1. \quad \cancel{3} - 4x = \cancel{-7} - 4x$$

$$\begin{array}{r} -4x = -10 - 4x \\ +4x \quad \quad +4x \end{array}$$

$$0x = -10$$

$$0 = -10$$

no solution

You try!

$$\text{Solve } \frac{1}{2}(10x + 7) = 5x$$

$$\cancel{5x} + 3.5 = \cancel{5x}$$

$$3.5 = 0$$

No solution

Example:

Solve $3(4x - 1) = 12x - 3$

$$12x - 3 = 12x - 3$$

$$0 = 0$$

infinite
in
many



Your turn!

$$2(2 - 3x) = 4(1 - 1.5x)$$

$$\begin{array}{rcl}
 4 - 6x & = & 4 - 6x \\
 \underline{-4} & & \underline{-4} \\
 -6x & = & -6x \\
 \underline{-6x} & & \underline{-6x} \\
 -6x & & -6x \\
 \underline{-6x} & & \underline{-6x} \\
 1 & = & 1 \quad \text{all real \#}
 \end{array}$$

Homework: From textbook

p21 18-25 all

p.21a & 21b #2-16 (evens)

Finish Worksheet